

Mapping the primate brain with network analysis

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Stelling behorende bij het proefschrift

Mapping the primate brain with network analysis

- 1) Inter-individual variability, deviations from macroanatomy and lack of robust functional localizers render the in vivo delineation of the cortical fields of the lateral frontal cortex challenging. Resting-state fMRI can be used for such a purpose (this thesis).
- 2) The intrinsic functional architecture of the lateral frontal cortex can elucidate its role in cognition, inform dominant models and provide evidence concerning the functional circuitry of assumed homologues in the macaque (this thesis).
- 3) Quantitative tools and neuroinformatics databases are useful for testing principles of qualitatively derived prefrontal models (this thesis).
- 4) Different concepts of hierarchy give rise to distinct layouts and contribute to a more holistic picture of prefrontal organization of the macaque brain (this thesis).
- 5) Quantitative inter-species comparisons are essential for building a translational bridge between macaque and human research (this thesis).
- 6) Comparative connectomics can unravel similarities and differences of the macroscale architecture of the macaque and human brain (this thesis).
- 7) Machine learning techniques can uncover subtle differences of the maturation trajectory of task induced and intrinsic functional properties of the human brain during adolescence (this thesis).
- 8) One anticipates that arguments will not suffice – an interesting and highly important limitation of rationalism – and Galileo's utterances are indeed arguments in appearance only. For Galileo uses propaganda (P. Feyerabend).
- 9) Science is no more a cultural activity of man than is art. Science is one way, and indeed one decisive way, in which all that is presents itself to us (M. Heidegger).
- 10) But what remains is founded by the poets (Hölderlin).

Alexandros Goulas
Maastricht, April 19th 2013